An Inaugural Dissertation on Hæmoptysis
For the Degree
of Doctor of Medicine

Addressed to the Medical Faculty
of the University
of Pennsylvania

By

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of
Virginia

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To the Medical Professors
of the University
of Pennsylvania

This Trea=
=tise is humbly dedicated. as a feeble mark
of respect & gratitude; for the instruction
which he has received from them

By
The author

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Definition —

The term Hæmoptysis is derived from two greek words aima. blood & ptuo to spit, and is a name which is appli= =plied to one of the important affections to which our fragile frames are subject. under it is arran= =ge those extravasations of blood ~~which~~ from the throat, the trachea, and the Lungs. It therefore includes three species —

1st. Hæmorrhage from the Fauces —

2d. Hæmorrhage from the Trachea

3d. Hæmorrhage from the Lungs.

These distinctions derive their importance, not only from the influence they have over the medical treat= =ment of the disease, but also from being connected with the cause of humanity; a knowledge of them frequently enabling the physician to remove con= =kering care from the mind of his patient, & restore him to health & hilarity

I shall commence with Hæmorrhage from the Fauces. This species consists in an oozing of blood from the space

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about the openings into the Larynx & Pharynx, & may be distinguished frequently, merely by opening the mouth of the patient, & inspecting this space, which is denominated the Fauces. It comes on generally without any premonitory signs, except perhaps a heat, & tension of the part; it is not accompanied as the two other species are, with a cough & tickling sensation about the glottis; from Hæmoptysis Pulmonalis it is particularly distinguished by the absence of dyspnoea, pain in the chest, & fever. Hæmorrhage from the Trachea is of more consequence than the preceding, though, not generally involving the destruction of health, it has been considered of but little consequence. Such contempt is perhaps not misplaced in the majority of cases, but we have the authority, of one distinguished professor of the practice of Medicine in the University of Pennsylvania, & also of others, for believing that it is sometimes succeeded by pulmonary consumption; the diseased state of the Trachea which occasions

the hæmorrhage seems to spend itself to the lungs.

It may be antecedent to the disease, yet more frequently it is unaccompanied with any peculiar symptom which denotes an affection of the lungs, such as a pain in some particular part of the chest, also an oppression or weight & a sensation of the same situation. There is a sense of uneasiness about the trachea which confines the mind decisively, and directly indicates the seat of the disease.

Hæmoptysis Pulmonalis

I have now arrived at the consideration of that extravasation which is the principal effect of the present treatise, the two preceding species scarcely claiming the notice of the medical practitioner when compared with it. There are few affections in the catalogue of diseases, which start the patient & his relations more than a discharge

of sanguineous fluid from the mouth the first impression that is made is, that it proceeds from the Lungs, if this is not the case it rests with the physician to calm the fears of, & often to restore to tranquillity & happiness a whole family.

Diagnosis. Hæmoptysis is to be discriminated by symptoms which precede the flow of blood. Those which accompany it. & those which succeed it.

The symptoms which precede are a pain in the chest a sense of weight in the Lungs, accompanied with dyspnœa, a tickling sensation about the glottis, a saltish taste in the mouth, & a hawking of mucous phlegm, together with all these there is generally a febrile excitement, displayed by the flushing of the cheeks, a sense of heat in the thorax & an irritated pulse.

The accompanying signs are the blood being brought up by coughing, mixed with air bubbles which give it a frothy appearance, its flow is a bright scarlet hue, & a difficulty of breathing often approaching

to suffocation, the live circulation of any — exist.

If the discharge is copious or in quantity, the effect when the [illegible] [illegible] to [illegible] [illegible] [illegible] [illegible] The prostration which succeeds it is much greater in proportion to the quantity of blood lost arising independently from the importance of the organ in which the lesion takes place.

The prognosis in [illegible] must be suspended [illegible] until we discern whether the blood is from the stomach constituting Hematemesis or from the lungs, and to resume it more perfectly it is necessary to take into consideration the symptoms of Hematemesis. In this disease the blood ejected is of a dark complexion & grumous consistence, it is determined also with the contents of the stomach & brought up by vomiting. Those subject to Hematemesis are generally chlorotic females or it is the consequence of some preceding disease such as inflammation of the Stomach ——

or of swallowing poisonous substances — a knowledge of all these circumstances will in most cases enable the practitioner to determine How, then, [illegible] the [illegible] stages

Causes —

These may be divided into Remote or predisposing, Exciting & Proximate causes.

The Remote causes are all habits, & structural derangements, which tend to weaken the lungs, & render them incapable of supporting the immense quantity of blood which is constantly flowing through them. These habits are a sedentary & sluggish life, those employments which require a considerable degree of bodily [illegible], such for instance as the weavers or the shoemakers trade, Plethora, frequent exposure to changes of temperature, breathing an atmosphere [illegible] much heated, as in a stove [illegible] for instance, frequent attacks of Catarrh, [illegible] intemperate living. The structural derangements are tubercles, a contracted thorax —

* Note. I know an instance of Hæmatagogues, which I consider very strongly, however, originally from a diseased state of the Family. The hereditary extension to the uterus which first irritated the bladder to such a degree as to produce the hæmorrhage. The herbs in which I recommend accumulation frequently, to subtract to an alterative for a period of the family.

and calcareous concretions. It is also produced by chronic diseases of the Liver, by Dyspepsia, — by drying up or stopping some accustomed discharge such as an issue, a hæmorrhoidal flux long continued & Leucorrhœa; & by grief — & long continued mental anxiety &c

Under the head of exciting causes, may be enumerated all imprudences, such as exposure to a draught of cold air whilst perspiring freely, a debauch, violent exertions, such as lifting heavy weights, straining to pull on a tight boot; running, violent motions of the mind &c &c, a sanguine temperament or a delicate & irritable constitution; a blow upon the thorax & exciting suddenly an accustomed hæmorrhage — a rarefied atmosphere will also produce it. Travellers who have ascended high mountains informs us that that one of the disagreeable consequences attending such a steps, is a gushing of blood from the lungs & nostrils. This took place after

they had ascended so high above the surface of the earth that a great diminution of the atmosphere existed. The explanation of this phenomenon is one which can be based upon no certain data or demonstrable fact, & therefore the following remarks may be considered as a mere sporting of the imagination, uncontrolled by reason & perhaps justly so.

It is a fact well established that the increase of vigour which we experience when exposed to a cold & dry atmosphere, is owing in some measure to the increase of atmospheric or atmospheric density, & consequently of atmospheric pressure, our muscular fibres are by such an increase of density rendered more compact & of course invigorated. But on the contrary, that the languor & lassitude which we experience on a warm summer days is owing principally to an opposite state of the atmosphere. We may reasonably consider

the vessels of exposed surfaces participating of the same invigoration & of the same relaxation under the opposite conditions of the air. The conclusion to be drawn from the foregoing remarks is that the vessels of those surfaces which may be considered as Cutaneous, yield to the influence of the atmosphere are supported & their strength increased in proportion to the density of this Element: this is proved by the additional power which the blood vessels acquire during cold weather. That on the contrary they experience a diminution of strength when the density of the air is diminished; this is evinced by the relaxation & debility they are subject to during warm weather. The effects of the rarefied state of the air upon the top of the Alps & Andes are of course the same as when this Element is rarefied by heat only differing in degree. The strength of the vascular portions of the Lungs, the Mouth & Nose, is therefore diminished in these high regions: in consequence of this the blood does not circulate through these organs

with its former rapidity, congestion takes place, & the blood relieves the overloaded vessels by forcing its way through the weakened & flattened Exhalents.
But there are other causes which from their exclusive applications & peculiarity of action deserve to be considered alone. These are Heat & Cold. It seems somewhat singular that principles of directly opposite, should produce ultimately effects so similar, but this is easily reconciled to reason when we examine the nature of their operations. Heat when applied in a considerable degree, produces first a stimulating impression upon the nerves, an increased activity of the circulation succeeds, the acceleration of the blood is sensible, every part of the system. This excitation is particularly experienced in the Lungs inasmuch as its delicate vessels have the blood determined towards them in a much greater quantity in a given time than formerly; the consequence of this increased

force in repose, congestion ensues & hæmorrhage succeeds, being produced by this congestion.

It has been supposed that heat acts by rarefying the blood. There can be very little doubt, that it does exert its effects in some measure to the diminution of density which the air sustains when subject to its action, but the idea that its operation is owing to a rarefaction of the blood is disproved by the experiments of Sauvages & Haller. These physiologists inclosed a portion of blood in a thermometrical tube & found that at the temperature of boiling water it did not expand $\frac{1}{100}$th part of its bulk. I am therefore inclined to adopt the opinion of the contributors to Parr that heat acts by producing a relaxation of solids & diminishing resistance.

The influence of cold is directly opposite to that of heat, but its ultimate effects are precisely similar. When it is applied to the body it induces at first a centripetal determination of

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from the surface to the central vessels, these vessels are by this slightly engorged, the lungs of course participating of this engorgement; it operates also immediately upon the mucous lining of these viscera, secretion &c. It is combined with moisture & lessens the sensibility of the exhalents or in other terms relaxes & debilitates them, rendering them in this manner less able to resist the tendency which the blood has to force its way out of the engorged vessels.

The Proximate cause of Haemoptysis is involved in considerable obscurity; an investigation which has for its object the removal of this obscurity, being dependent mainly upon these conjectures leaves the subject in a state of doubt & uncertainty.

Authors enumerate four proximate causes, 1st Resis or Rectitude 2d Diapedesis or transudation 3d Diabrosis or erosion & 4th Anastomosis

That doctrine which inculcates that Resis and

Erosion are the most frequent causes of hæmorrhage. For a long time almost universally ignored, & an objection to it was considered as scarcely worthy of refutation. But more recent times have seen the establishment of the opinion which was so ably advocated by Bichat & which is taught by the ablest physician who occupies the Chair of the Institutes & Practice of Medicine in the University of Pennsylvania to his hearers — Bichat asserts that in no instance of spontaneous hæmorrhage could he discover upon dissection the slightest appearance of Erosion, although he macerated & washed the surfaces with the greatest care, & employed a Microscope in examining them. 2d. That in squeezing the mucous surface of the uterus in women who had died during menstruation he expressed a number of small drops of blood which manifestly came from the mouths of the exhalants — 3d That hæmorrhage sometimes takes place

from free surfaces where the exhalents are evidently in fault. This renders it probable that the same thing occurs in mucous membranes.
4th. that if in active hæmorrhage we admit of the probability of a rupture, how can we suppose it to take place in passive hæmorrhage, where the power of the vascular system is almost destroyed. 5th. that it is difficult to reconcile with the doctrine of rupture many of the phenomena of hæmorrhage such as the rapidity with which it has disappeared in one part & reappeared in another.
I will now close these proofs with a few lines from Lucan which are peculiarly striking & admirably express the fact, that blood may exude from every exhalent in the human system; in cases of extreme debility & exhaustion.

Sanguis erant lacrymæ: quæcunque foramina novit
Humor, ab his largus manat cruor: ora rubendant

Et fatula nares: sudor nitet: unda profundo
Membra lavat: tenis: tolum sit in aere corpus

Period at which hæmorrhagia pulmonalis
most apt to occur.

It is a remarkable fact & one which has been much engaged the attention of physicians, that Hæmoptysis is very much inclined to make its appearance at that period of life, when a change from boyhood to manhood is taking place; which period is denominated puberty. This change has been the cause of much speculation, & has been a theme upon which the imagination has indulged unbridled license. This liability to Hæmoptysis is attributed to plethora, which very frequently exists at puberty. The frequent occurrence of a plethoric condition at this period has occasioned much theorising — I will shall only mention the other theories which have been advanced & this is Beclard's.

This author observes, as the lungs are connected in an intimate though unknown manner with

"the genital organs, they acquire with them a pre-
"-dominance at puberty, & partake of the increase
"of vital energy which they experience at this period.—
"It is at this time that pulmonary affections com-
"-mence; as those causes which in an adult would
"produce gastric affections, now generate pulmonary
"diseases.

The impressive effect which every observation coming from an so distinguished producer gives to this opinion an authority which few will venture to object to, but I am induced to adopt it not by this effect, but on account of the applicability of her ideas in explaining the fact now under consideration.

That the genital organs have an intimate sympathetic connection with the thorax & its contents, is evinced by the effects which a development of these organs have upon the voice; the expansion & enlargement of the chest & lungs at the period of this development; and by the enlargement of the mammæ in females at puberty, but more particularly, at a certain —

stage of pregnancy, when the period of parturition approaches.

It is probable also that increased [illegible] excites the system to more greatly invigorated motions. Of this invigoration the blood vessels must of course largely partake. The increased rate with which in act may be often disproportionate to the strength of the delicate vessels of the lungs, which from their situation with regard to the rest of the circulating system, & the duties they perform, must sustain the greater portion of the burthen under these circumstances. The exhaustion which the chest is undergoing at this period induces also a greater proportion of blood to them than usual; these two causes combined debilitate the vessels, the lungs, & digestive organs, & finally hæmorrhage.

With regard to the fact that Hæmoptysis is apt to occur periodically it is probable that I should here say something. Cullen in his First Lines states that hæmorrhage sometimes takes place at stated periods. Dr Mead

notices the same fact but it is from Priestly that we derive the most decisive information upon this subject.

Among the many instances says the Dr which I have lately seen there is one which deserves to be recorded. A man in Bridgeight street has a cough for some time, which brought on Haemoptysis. This continued for six weeks & finally degenerated into a regular monthly discharge of blood. He discharges about 8 ounces of blood every full moon.

He also relates the case of a Capt Richard Bayley of the 3rd Regiment Dragoon Guards who was attacked in London on the 20th of January from straining to hull on a boat. He has many repetitions of the attack after recovering from the first. These attacks became at last so periodical as to return at or near the period of every full moon.

The cases tend to justify also the opinion which Dr Mosely advances, viz. that the moon has considerable influence in haemoptysis. We can account, it is true, for some

of the repetition by supposing the fortuitous circumstances combined to produce them at the period of full moon; but such a number of recurrences at this particular time cannot in this way be explained. There is another circumstance which may be related in this place.

Here mania has not shewn itself in a manifest manner makes its first attack after the patient has retired to bed in the dearly night, when a perfect state of both body & mind prevails. Three out of four cases in which I have had to my care took place at this time. One of them was related by strangulation & another of them was the precursor of a disease, which I have good reason to suppose was inflammation of the Brain; this destroyed the patient by producing effusion.

Prognosis.

It is very difficult to form a prognosis with regard to Lunacy, as the more material circumstances which could afford a clue to it are not known or generally until some time after its occurrence

The most hæmorrhage may not be dangerous, though this is occasionally the result of it. The physician cannot in most cases form a prognosis from the first hæmorrhage for although circumstances may be favourable at this time, yet unforseen occurrences frequently destroy the best prospects & vice versa. The following considerations may determine our opinions. If the patient has an hereditary predisposition to Phthisis pulmonalis, a scrofulous diathesis, evinced by a fair complexion, thick lips, mild blue eyes, & light complexion & hair, or a defective chest, the prognosis is very unfavorable. If the hæmorrhage returns frequently, & is succeeded by a cough with a spitting of pure matter, & a constant pain in the heart, the prognosis may determine that Phthisis Pulmonalis has begun. If the disease occurs in an emaciated & cachectic person, the prognosis is very unfavorable; the hæmorrhage itself may in this case be fatal. The more favourable prognosis is the disappearance of the cough, pain, & dyspnœa. The discharge being

produced by some entirely accidental cause. It being [illegible] & occurring in a constitution which we have every reason to believe is tainted by a scrofulous diathesis. The habits of the patient [illegible]. All these circumstances taken into consideration will usually enable to judge of the nature of the patient.

This resolves itself into two divisions — viz. into —
1st the treatment proper during the hæmorrhage —
2d that which is required after. It has been arrest=
=ed

When we are called to see a patient who is attacked
with hæmoptysis, if this is a tall violent one find the
blood flowing from his mouth, his respiration obstructed, &
his pulse greatly accelerated, he complains also
of something which feels like a load upon his lungs.
If he has retired to rest & the extravasation occurs whilst
he is asleep which it most generally does, he is
=aroused by pain & oppression in the thorax & expe=
=rience also a tickling sensation about the fauces.
This brings on a coughing, by which the blood is discharg=
=ed

The attack is often strictly febrile in its nature.
It is ushered in by a chill, accompanied with cold
extremities, lassitude, & debility. This is succeeded
by a fever together with the effects upon the system
generally. The paroxysm is complicated by the oppression

blow, which may be considered as bearing the same relationship to the preceding stages as the sweating at the close of an intermittent paroxysm.
If we see the patient before the extravasation has taken place & from the symptoms have reason to suspect a determination to the chest, the obvious indication is to bleed copiously. It is necessary also if the local symptoms are very threatening, to apply cups to the chest, which are to be repeated if required, or a blister substituted. The bowels should be attended to, & kept freely open by saline cathartics. If the discharge of blood has occurred upon an arterial point step must be to arrest it. The most important remedy under such circumstances is bleeding from the arm.
The celebrated Hebreu from a prime consideration — doubtless the impropriety of the practice not being able to conceive how opening a drain whilst the already exists, should arrest it in last. But the fact is so plainly on the side of extract from Dr Chapin's lectures. By opening a vein in the arm (says the Dr) we invite an afflux of blood to that part, & on the principle of revulsion check

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the hæmorrhage in any other part; he concludes with observing that the solution of the problem is perfectly immaterial, the fact being almost universally secure.
In the more violent cases it is essential that the bleeding be copious; the tendency which the blood has to the lungs not being overcome by any other than a more powerful attraction in another direction. Small bleedings says Dr. Chap.n only serve to harrass & debilitate the patient without contributing to the cure, My practice (the continuance in cases when it is necessary to appear immediately) is to take at once from a large orifice as much blood as to produce a permanent impression. Common salt may be used advantageously at this time. The mode of its action is very obscure, but it operates probably by stimulating the fauces & Pharynx & producing a determination towards these parts. The mode of using it is a matter of some importance, as its effects are influenced by it. It is used as follows a teaspoonfull of the dry salt is to be taken into the mouth in small portions, dissolved upon the tongue & afterwards swallowed —

vesicatories applications to the chest are highly recommended, indeed there is very little doubt that they are important auxiliaries in arresting the flow of sanguineous fluid — "as a blister (says Dr Parr) will often prevent, and will sometimes lessen Pulmonary hæmorrhage, it is indeed a very unequivocal remedy. Practitioners disagree very much as to the part to which they ought to be applied, some contending that the extremities are the proper situations for their application; others, they will see little utility unless placed upon the chest. This latter opinion is the one which has been generally adopted. Indeed it may be laid down as a general rule that in all local diseases where blisters are indicated, we should apply them as near to the seat of the disease as possible. It is only in general affections that we can apply them with propriety to the extremities.

Cold applications to the Thorax have also been highly recommended, but I have not the hesitancy

their use, except in urgent cases. Cold is very injurious to diseased lungs, & therefore should be used sparingly & cautiously. It has indeed been advised to wrap the whole body in a sheet wet with cold water in extreme cases. Such bold practice is perhaps justifiable under these circumstances but only under these circumstances.

Many years ago Saccharum Saturni had high reputation in this complaint & was generally used it being presumed that its astringent effect when taken into the stomach would extend to the lungs. But owing to the report of Sir Geo: Baker, it was afterwards viewed as a deadly poison & its use abandoned. The late Dr Burton by stating to the public the result of his experience & giving his distinguished authority with regard to the propriety of its use succeeded in dissipating these idle notions in this country & fully established its use.

But in consequence of this its use has become perhaps too indiscriminate; Physicians employing it upon all occasions

& frequently without any attention to the condition of the system. Bleeding should always precede its use in an excited condition of the vascular system. Dr Chapman remarks upon this subject that if the force of the arteries is not previously reduced, Lead will not only be inefficacious but even injurious; nor will a single bleeding answer as the common practice to bleed as long as any arterial excitement exists. After this has been reduced Lead may be administered. It cannot be considered applicable as long as the bleeding is profuse. It would indeed, be idle to use it under such circumstances. Saccharum Saturni may be taken in considerable doses without injury. A drachm of it has been swallowed by mistake without producing any other effect than an active purgative.

Alum has been much prescribed & considering its powerful astringent properties, one would suppose a priori that it is a very valuable remedy. But I have been taught to put but little confidence in its powers in this species of hæmorrhage. It is certainly not

applicable to profuse hæmorrhage & it is therefore if ever at all only to be given in the milder cases; or to more severe ones after the bleeding has been considerably diminished by more active remedies.

For a long course of time Digitalis in large quantity was resorted to as a remedy in this affection. But its efficacy is not much depended upon. Its effects are obtained in most cases either by giving a considerable quantity in small doses, frequently repeated or by a large dose or medicine at once. In the first case it requires a considerable time to put the system under its influence, & in the latter we may destroy our patient. It is therefore not to be used in an affection which requires her prompt relief. The opinion which prevails, that it may be used as a substitute for the lancet is injurious. There is nothing in fact which can be substituted for this instrument when reduction of the arterial force is required. If administered it is to be given in small doses.

Nitre has been commended with a view to its refrigerant effects. By Dr Pen it is said to be most effectual when

swallowed in cold water, which dissolving. Ten grains may be given (says he) in this manner in urgent cases.

We are now arrived at the consideration of a class of remedies, about which there is considerable dispute by Practitioners. The efficacy of these medicines depends principally I suspect upon the nature of the case in which they are used. They cannot be considered as proper in the generality of profuse bleedings from the Lungs. In such they ought only to be used as dernier resorts. But when the quantity of blood is not small in quantity and seems to proceed from bleeding merely from the Bronchial Arteries, they may be administered with great advantage. Their operation in such cases tends to restore the equilibrium of the circulation, by determining to the surface, relaxing the secretories & procuring a free perspiration. Their efficacy in all cases was strongly advocated by Dr B. Robinson of Dublin. Cullen was induced to try them, but conceiving that they greatly increased the discharge in one instance, ~~greatly~~ and arguing the life of the patient, he laid them aside & proscribed them entirely.

But although Emetic Emetic Tartar is inadmissible in the more violent cases in doses large enough to vomit; it is certainly very usefull when given so as to procure its nauseating effects.

By Dr Mosely, the vitriolic solution has been strongly recommended. In this practice he is supported by Dr Barton, who thought the remedy very efficacious.

I have been taught to consider Ipecacuana as an article in which confidence is to be placed. It is to be administered in small doses so as to produce nausea which should be kept up for some time.

The mineral acids have also been used. The best of them is the sulphuric acid, given in the dose of 10 or 20 drops with a proper proportion of water, every hour. Its beneficial effects may be derived from the Elixir Vitriol.

Most of the Narcotics have also been used with a view to procure their sedative effects. But Opium may be made to supply the place of all the rest of this class. The utility of this medicine in many instances is too well attested to admit of a doubt. As it is evidently a stimulant

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it might very properly be considered as contraindicated, but not experience bears testimony to its salutary operation. Dr Chapman remarks, that in speculating upon this article, we should bear in mind the peculiarity of its effects. "When I have directed Opium (continues he) it has "generally been in cases where great pulmonary exci-"-tation exists, accompanied with a cough. No one "will dispute the propriety of using Opium in such "cases though there may be great arterial excitement at "the time". Irritation of the lungs: cure pectoral only the cough has the effect of continuing the haemorrhage & by removing these we arrest it.

There are some general indications with regard to the management of the patient which must be answered. I shall make an extract of these from Dr Chapman's Lecture on Haemoptysis.

1st The moment we are consulted in a case of this nature, you are to direct that your patient be put in a state of complete rest with his shoulders somewhat elevated. 2d the room should be kept cool & well ventilated.

This is a matter of great importance. It seems proper that company be excluded, & the patient must not even be suffered to enquire into any event that may occur, the mere asking a question has been known to cause a return of the hæmorrhage. 3rd The diet should consist of small portions of demulcent drinks. It is especially necessary that the stomach should not be overloaded with aliment or drink.

4th It is a matter of considerable importance that the bowels be kept in a soluble state. But no great advantage would result from active purging. In administering purgatives we must be careful not to use magnesia, as it is very apt to excite coughing & thus produce a recurrence of the bleeding.

Most of the bleedings from the lungs to which we are called, are of an active nature. But we occasionally meet with cases of an opposite kind, requiring a treatment very different. These are denominated passive hæmorrhages. All such cases are to be treated alike whether they are primarily or secondarily of a passive nature. Tonics are of course to be freely used. Of these the Bark

is certainly the best. Dr. Chapp. observes that the best mode of exhibiting this tonic is to combine it with some astringent. Of these he prefers the muriatic tincture of iron or the green sulphate.

The vegetable astringents are of so little consequence that it is not necessary to enlarge on their administration.

I have now finished the consideration of the means to be employed during the hemorrhage. I am next to speak of those proper after this has been arrested, and although there are much fewer in number & more simple in their character; yet they are, perhaps, of no inferior importance than the preceding.

The object of these remedies is to prevent a recurrence of the disease & consequently, to arrest this incipient advance towards pulmonary consumption. As a sanguine & excited state of the system is very inimical to our efforts. We should therefore enforce the antiphlogistic regimen in all its vigour & induce our patients to adhere to it most rigidly. The best efforts of the physician & the most unremitting attention on

his part is frequently rendered unavailing by a single imprudence on the part of the patient. In a short time after the attack has occurred we find him to regain his confidence & spirits, & under these circumstances believing that he is perfectly cured, he is very apt secretly to depart from our regulations. We should guard him in the most impressive manner from this fatal security, & convince him that his life depends upon his strictly complying with our directions with regard to diet, clothing &c. The diet should consist of the lightest articles & the patient must not even be suffered to load his stomach with them. Animal food must for some time be totally abandoned. He should wear flannel next the skin. and his bowels should be kept open. He should particularly avoid exposure to the night air. It is important that he should exercise on horseback but must not carry it to such an extent as to fatigue himself. His ride must be commenced in the morning after sunrise & in the evening before sunset so as to avoid both the oppressive heat

of the Sun, & the damp air of twilight. He must
avoid a hot fire or a room where the air is very much
rarefied by heat. In fine nature must not be ob-
structed in her restorative operations, by any
improper acts; as his safety depends entirely
upon a due regard to the condition of his system, a fur-
ther deviation to above by the treatment this condition
calls for.

Finis